WHAT IS CLAIMED IS:

1.      An apparatus for checking a hypertext, targeting a hypertext database, capable of detecting a part including a logically mismatched link in said hypertext database.

2.      The apparatus for checking a hypertext as set forth in claim 1 is operated to detect at least one of the following parts as said part, said parts including:

a part having a mismatch between a link source description
5   and contents of a link target page, said link target page being linked with said link source description;

a part having a mismatch between a link source description and contents of a link target page, the contents of said link target page being changed, said link target page being linked with said
10  link source description;

a part having a disunity among a plurality of link source descriptions having a same link target page;

a part having a disunity in styles among a plurality of link source descriptions included in a same page or peripheral pages;
15          a part having no link source description; and

a part including a group of links forming a loop, the link source descriptions of said links relating to a same topic.

3.      An apparatus for checking a hypertext comprising:      $\iota$

an information storing unit which stores an information about links related to said hypertext; and

a condition detecting unit which refers to said information
5   storing unit to detect a part including a logically mismatched link.

4.    The apparatus for checking a hypertext as set forth in claim 3, further comprising an information collecting unit which collects said information about the links related to said hypertext, wherein said information storing unit stores said
5    information about the links collected by said information collecting unit.

5.    The apparatus for checking a hypertext as set forth in claim 3, further comprising a candidate providing unit which provides a correction candidate related to said part including the logically mismatched link detected by said condition detecting
5    unit.

6.    The apparatus for checking a hypertext as set forth in claim 5, further comprising an importance calculating unit which calculates importance value of said part including the logically mismatched link detected by said condition detecting unit.

7.    The apparatus for checking a hypertext as set forth in claim 5, further comprising a correction reflecting unit which corrects said hypertext based on said part including the logically mismatched link detected by said condition detecting unit and said
5    correction candidate provided by said correction providing unit.

8.    The apparatus for checking a hypertext as set forth in claim 6, further comprising a total score calculating unit which calculates a total score related to said hypertext based on at least one of factors including: the importance value calculated
5    by said importance calculating unit, the number of said parts detected by said condition detecting unit, and the rate of the number of said part detected by said condition detecting unit

corresponding to the total number of the links.

9. The apparatus for checking a hypertext as set forth in claim 3, further comprising an importance calculating unit which calculates the importance value of the part including the logically mismatched link detected by said condition detecting

5 unit.

10. The apparatus for checking a hypertext as set forth in claim 9 further comprising a total score calculating unit which calculates a total score related to said hypertext based on at least one of factors including: the importance value calculated

5 by said importance calculating unit, the number of said parts detected by said condition detecting unit, and the rate of the number of said part detected by said condition detecting unit corresponding to the total number of the links.

11. The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to divide said information about the links into some groups in accordance with a predetermined condition and detects a minor group as said

5 part including the logically mismatched link.

12. The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to detect a part including a link of which a link source description and contents of a link target page are mismatched as said part

5 including the logically mismatched link.

13. The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to calculate criteria scores of the links based on at least one of the following

scores and detects a link with a high criteria scores as said part,

5   said scores including:

(1) a first score calculated by comparing link source descriptions of a plurality of links having a same link target page with each other;

(2) a second score calculated by comparing link target pages

10   of a plurality of links having a same link source description with each other;

(3) a third score calculated by comparing link target pages of a plurality of links having a same link target page and a same link source description with each other; and

15   (4) a fourth score calculated by comparing contents of a link source description and contents of a link target page, said link source description being linked with said link target page.

14. The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to detect a part having a mismatch between a link source description and contents of a link target page, said link source description being

5   linked with said link target page, and said mismatch being caused by changing the contents of said link target page.

15. The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to calculate criteria scores of the links based on at least one of the following scores and to detect a link with a high criteria scores as said

5   part, said scores including:

(1) a first score calculated by comparing link source descriptions of a plurality of links having a same link target

page with each other ;

(2)    a second score calculated by detecting a notice description including a movement notice description or an expiration notice description included in the contents of a link target page; and

(3)    a third score calculated by detecting a description of period of validity included in the contents of a link target page and comparing said period of validity and present date and time.

16.    The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to detect a part having a disunity among a plurality of link source descriptions having a same link target page.

17.    The apparatus for checking a hypertext as set forth in claim 3, wherein said condition detecting unit is operated to detect a part having a disunity in styles among a plurality of link source descriptions included in a same page or peripheral pages.

18.    The apparatus for checking a hypertext as set forth in claim 5, wherein said condition detecting unit is operated to divide said information about the links into some groups including a major group and a minor group in accordance with a predetermined condition and detects said minor group as said part including the logically mismatched link.

19.    The apparatus for checking a hypertext as set forth in claim 18, wherein said candidate providing unit is operated to provide a correction candidate that makes said minor group same as said main group.

20.    The apparatus for checking a hypertext as set forth in claim 5, wherein said condition detecting unit is operated to detect

a part including a link of which a link source description and contents of a link target page are mismatched as said part including the logically mismatched link.

21. The apparatus for checking a hypertext as set forth in claim 5, wherein said condition detecting unit is operated to calculate criteria scores of the links based on at least one of the following scores and detects a link with a high criteria scores as said part, said scores including:

(1) a first score calculated by comparing link source descriptions of a plurality of links having a same link target page with each other;

(2) a second score calculated by comparing link target pages of a plurality of links having a same link source description with each other;

(3) a third score calculated by comparing link target pages of a plurality of links having a same link target page and a same link source description with each other; and

(4) a fourth score calculated by comparing contents of a link source description and contents of a link target page, said link source description being linked with said link target page.

22. The apparatus for checking a hypertext as set forth in claim 21, wherein said candidate providing unit is operated to provide at least one of the following correction candidates including:

(1) a first correction candidate for the link source description obtained by comparing the link source descriptions of a plurality of links having a same link target page with each other;

(2)    a second correction for the link target candidate obtained by comparing target pages of a plurality of links having a same link source description with each other;

(3)    a correction candidate for the link target obtained by comparing link target pages of a plurality of links having a same link target page and a same link source description with each other; and

(4)    a correction candidate for the link source description obtained by comparing contents of a link source description and contents of a link target page, said link source description being linked with said link target page.

23.    The apparatus for checking a hypertext as set forth in claim 5, wherein said condition detecting unit is operated to detect a part having a mismatch between a link source description and contents of a link target page, said link source description being linked with said link target page, and said mismatch being caused by changing the contents of said link target page.

24.    The apparatus for checking a hypertext as set forth in claim 5, wherein said condition detecting unit is operated to calculate criteria scores of the links based on at least one of the following scores and detects a link with a high criteria scores as said part, said scores including:

(1)    a first score calculated by comparing link source descriptions of a plurality of links having a same link target page with each other ;

(2)    a second score calculated by detecting a notice description including a movement notice description or an expiration notice

description included in the contents of the link target page; and

(3) a third score calculated by detecting a description of period of validity included in the contents of a link target page and comparing said period of validity and present date and time.

25. The apparatus for checking a hypertext as set forth in claim 24, wherein said candidate providing unit is operated to provide at least one of the following correction candidates including:

(1) a first correction candidate for the link source
5 description obtained by comparing link source descriptions of a plurality of links having a same link target page with each other; and

(2) a second correction candidate for the link target obtained by extracting the description of new moved address from the
10 contents of a link target page.

26. The apparatus for checking a hypertext as set forth in claim 5, wherein said condition detecting unit is operated to detect a part having a disunity among a plurality of link source descriptions having a same link target page, and

5 said candidate providing unit provides a correction candidate for the link source description by comparing link source descriptions of a plurality of links having a same link target page as that of said part detected by said condition detecting unit.

27. The apparatus for checking a hypertext as set forth in claim 5,

wherein said condition detecting unit is operated to detect a part having a disunity in styles among a plurality of link source

5    descriptions included in a same page or peripheral pages, and

said candidate providing unit is operated to provide said

correction candidate for the style of the link source description

by comparing the style of a plurality of link source descriptions

included in the detected part detected by said condition detecting

10   unit.

28.    The apparatus for checking a hypertext as set forth in claim

4, wherein said information collecting unit is operated to

repeatedly collect said information about the links in the

hypertext, and said information storing unit stores a plurality

5    of said information about the links collected at a plurality of

different times.

29.    The apparatus for checking a hypertext as set forth in claim

28, wherein said condition detecting unit is operated to detect

a part having a mismatch between a link source description and

contents of a link target page by referring to said information

5    storing unit and calculating changes of the numbers of the links

or kinds of the link source description to the link target page

during said times, the contents of said link target page being

changed.

30.    The apparatus for checking a hypertext as set forth in claim

3, wherein said condition detecting unit is operated to detect

a link having no link source description as said part including

the logically mismatched link.

31.    The apparatus for checking a hypertext as set forth in claim

3, wherein said condition detecting unit is operated to detect

a link having the link source description in which no character

strings or images are included, or a link having the link source

5 description in which a character string or an image expressed in

an inconspicuous color or a size is included, as said part

including the logically mismatched link.

32. The apparatus for checking a hypertext as set forth in claim

3, wherein said condition detecting unit is operated to detect

a group of links forming a loop as said part, the link source

descriptions of said links relating to a same topic.

33. The apparatus for checking a hypertext as set forth in claim

6, wherein said importance calculating unit is operated to

calculate importance value based on at least one of the following

factors including:

5 (1) a sort of errors or unsuitability of the detected part

detected by said condition detecting unit;

(2) accuracy of errors or unsuitability of said detected part;

(3) the number of links which is connected to the page including

said detected part;

10 (4) a record of frequency of access to the page including said

detected part; and

(5) a stratification level in the hypertext of the page

including said detected part.

34. The apparatus for checking a hypertext as set forth in claim

6, wherein said importance calculating unit is operated to

calculate the importance value of the detected part detected by

said condition detecting unit, and to control output condition

5 for said detected part in accordance with said importance value,

said output condition including the number of outputting said

detected part or a method of outputting said detected part.

35. The apparatus for checking a hypertext as set forth in claim 4, wherein said information collecting unit is operated to extract character strings corresponding to the link source description by character recognition when the link source description is an image, and to resister said extracted character strings as said information about links on said information storing unit.

36. The apparatus for checking a hypertext as set forth in claim 1, having a hypertext on a Web site to be checked target.

37. The apparatus for checking a hypertext as set forth in claim 3, having a hypertext on a Web site to be checked target.

38. A method of checking a hypertext comprising the steps of:

(a) accepting a condition for detecting a part from a hypertext database, said part including a part having an error or a mismatch in a link source description or a relationship between links;

5 (b) detecting said part based on said condition;

(c) displaying, on a display screen, a result of the detection as a list with three items including:

(1) a link source description;

(2) identification information about a link source page; and (3)

10 identification information about a link target page.

39. The method of checking a hypertext as set forth in claim 38, wherein said list is sorted by having one of said three items as a key in said step (c).

40. The method of checking a hypertext as set forth in claim 38 further comprising the steps of:

(d) accepting a correction candidate for said three items; and

(e)    correcting said hyper text database in accordance with said

5    correction candidate accepted in said step (d).

41.    The method of checking a hypertext as set forth in claim

38, further comprising the step of specifying a hypertext database

to be checked.

42.    A method of checking a hypertext comprising the steps of:

(a)    collecting information about links in a Web site;

(b)    detecting a part including a logically mismatched link by

referring to said information collected in said step (a);

5    (c)    calculating importance value of said part detected in said

step (b);

(d)    calculating a total score related to said Web site;

(e)    performing periodically said steps (a) to (d) for said Web

site; and

10    (f)    notifying of a change of said total score related to said

Web site in accordance with time.

43.    A method of checking a hypertext comprising the steps of:

(a)    collecting information about links in a Web site;

(b)    detecting a part including a logically mismatched link by

referring to said information collected in said step (a);

5    (c)    calculating importance value of said part detected in said

step (b);

(d)    calculating a total score related to said Web site;

(e)    performing periodically said steps (a) to (d) for said Web

site; and

10    (f)    notifying an alarm when said total score related to said

Web site or said importance value of said part fulfills a

predetermined condition

44.    A method of checking a hypertext comprising the steps of:

(a)    collecting information about links in a Web site;

(b)    detecting a part including a logically mismatched link by referring to said information collected in said step (a);

5   (c)    calculating importance value of said part detected in said step (b);

(d)    calculating a total score related to said Web site;

(e)    performing said steps (a) to (d) for a plurality of Web sites specified as targets; and

10   (f)    outputting said total scores of said plurality of Web sites as a ranking list.

45.    A computer program product comprising a computer usable storage medium having computer readable code embodied therein, said computer readable code being executed by a computer including an information storing unit which stores an information about

5   links related to a hypertext, said computer readable code including a cord for having said computer serve as a condition detecting unit which refers to said information storing unit to detect a part including a logically mismatched link.

46.    A computer program product comprising a computer usable storage medium having computer readable code embodied therein, said computer readable code being executed by a computer having an information storing unit, said computer readable code

5   including a cord for having said computer serve as:

an information collecting unit which collects an information about links related to a hypertext and stores said

information on said information storing unit; and

a condition detecting unit which refers to said information
10 storing unit to detect a part including a logically mismatched
link.

47. The computer program product as set forth in claim 46,
wherein said computer readable code includes a cord for having
said computer serve as a candidate providing unit which provides
a correction candidate related to said part including the
5 logically mismatched link detected by said condition detecting
unit.

48. The computer program product as set forth in claim 47,
wherein said computer readable code includes a cord for having
said computer serve as an importance calculating unit which
calculates importance value of said part including the logically
5 mismatched link detected by said condition detecting unit.

49. The computer program product as set forth in claim 47,
wherein said computer readable code includes a cord for having
said computer serve as a correction reflecting unit which corrects
said hypertext based on said part including the logically
5 mismatched link detected by said condition detecting unit and said
correction candidate provided by said correction providing unit.

50. The computer program product as set forth in claim 48,
wherein said computer readable code includes a cord for having
said computer serve as a total score calculating unit which
calculates a total score related to said hypertext based on at
5 least one of factors, said factors including the importance value
calculated by said importance calculating unit, the number of said

parts detected by said condition detecting unit, and the rate of the number of said part detected by said condition detecting unit corresponding to the total number of the links.

51.    The computer program product as set forth in claim 45, wherein said computer readable code includes a cord for having said computer serve as an importance calculating unit which calculates the importance value of the part including the

5  logically mismatched link detected by said condition detecting unit.

52.    The computer program product as set forth in claim 51, wherein said computer readable code includes a cord for having said computer serve as a total score calculating unit which calculates a total score related to said hypertext based on at

5  least one of factors, said factors including the importance value calculated by said importance calculating unit, the number of said parts detected by said condition detecting unit, and the rate of the number of said part detected by said condition detecting unit corresponding to the total number of the links.

53.    The computer program product as set forth in claim 45, wherein said condition detecting unit is operated to divide said information about the links into some groups in accordance with a predetermined condition and detects a minor group as said part

5  including the logically mismatched link.

54.    The computer program product as set forth in claim 45, said condition detecting unit is operated to detect a part including a link of which a link source description and contents of the link target page are mismatched as said part including the logically

5   mismatched link.

55.   The computer program product as set forth in claim 45,
wherein said condition detecting unit is operated to calculate
criteria scores of the links based on at least one of the following
scores and detects a link with a high criteria scores as said part,

5   said scores including:

(1)   a first score calculated by comparing link source
descriptions of a plurality of links having a same link target
page with each other;

(2)   a second score calculated by comparing link target pages

10   of a plurality of links having a same link source description with
each other;

(3)   a third score calculated by comparing link target pages of
a plurality of links having a same link target page and a same
link source description with each other; and

15   (4)   a fourth score calculated by comparing contents of a link
source description and contents of a link target page, said link
source description being linked with said link target page.

56.   The computer program product as set forth in claim 45,
wherein said condition detecting unit is operated to detect a part
having a mismatch between a link source description and contents
of the link target page, said link source description being linked

5   with said link target page, and said mismatch being caused by
changing the contents of said link target page.

57.   The computer program product as set forth in claim 45,
wherein said condition detecting unit is operated to calculate
criteria scores of the links based on at least one of the following

scores and to detect a link with a high criteria scores as said

5    part, said scores including:

(1)    a first score calculated by comparing link source descriptions of a plurality of links having a same link target page with each other ;

(2)    a second score calculated by detecting a notice description

10   including a movement notice description or an expiration notice description included in the contents of a link target page; and

(3)    a third score calculated by detecting a description of period of validity included in the contents of a link target page and comparing said period of validity and present date and time.

58.    The computer program product as set forth in claim 45, wherein said condition detecting unit is operated to detect a part having a disunity among a plurality of link source descriptions having a same link target page.

59.    The computer program product as set forth in claim 45, wherein said condition detecting unit is operated to detect a part having a disunity in styles among a plurality of link source descriptions included in a same page or peripheral pages.

60.    The computer program product as set forth in claim 47, wherein said condition detecting unit is operated to divide said information about the links into some groups including a major group and a minor group in accordance with a predetermined

5    condition and detects said minor group as said part including the logically mismatched link.

61.    The computer program product as set forth in claim 60, wherein said candidate providing unit is operated to provide a

correction candidate that makes said minor group same as said main group.

62.    The computer program product as set forth in claim 47, wherein said condition detecting unit is operated to detect a part including a link of which a link source description and contents of a link target page are mismatched as said part including the

5    logically mismatched link.

63.    The computer program product as set forth in claim 47, wherein said condition detecting unit is operated to calculate criteria scores of the links based on at least one of the following scores and detects a link with a high criteria scores as said part,

5    said scores including:

(1)    a first score calculated by comparing the link source descriptions of a plurality of links having a same link target page with each other;

(2)    a second score calculated by comparing the target pages of

10    a plurality of links having a same link source description with each other;

(3)    a third score calculated by comparing the link target pages of a plurality of links having a same link target page and a same link source description with each other; and

15    (4)    a fourth score calculated by comparing contents of a link source description and contents of a link target page, said link source description being linked with said link target page.

64.    The computer program product as set forth in claim 63, wherein said candidate providing unit is operated to provide at least one of the following correction candidates, said correction

candidates including:

5    (1)    a   first   correction   candidate   for   the   link   source
description obtained by comparing the link source descriptions
of a plurality of links having a same link target page with each
other;

(2)    a second correction for the link target candidate obtained
10   by comparing target pages of a plurality of links having a same
link source description with each other;

(3)    a correction candidate for the link target obtained by
comparing link target pages of a plurality of links having a same
link target page and a same link source description with each
15   other; and

(4)    a correction candidate for the link source description
obtained by comparing contents of a link source description and
contents of a link target page, said link source description being
linked with said link target page.

65.    The computer program product as set forth in claim 47,
wherein said condition detecting unit is operated to detect a part
having a mismatch between a link source description and contents
of a link target page, said link source description being linked
5    with said link target page, and said mismatch being caused by
changing the contents of said link target page.

66.    The computer program product as set forth in claim 47,
wherein said condition detecting unit is operated to calculate
criteria scores of the links based on at least one of the following
scores and detects a link with a high criteria scores as said part,
5    said scores including:

(1) a first score calculated by comparing link source descriptions of a plurality of links having a same link target page with each other ;

(2) a second score calculated by detecting a notice description including a movement notice description or an expiration notice description included in the contents of a link target page; and

(3) a third score calculated by detecting a description of period of validity included in the contents of a link target page and comparing said period of validity and present date and time.

67. The computer program product as set forth in claim 66, wherein said candidate providing unit is operated to provide at least one of the following correction candidates, said correction candidates including:

(1) a first correction candidate for the link source description obtained by comparing link source descriptions of a plurality of links having a same link target page with each other; and

(2) a second correction candidate for the link target obtained by extracting the description of new moved address from the contents of a link target page.

68. The computer program product as set forth in claim 47, wherein said condition detecting unit is operated to detect a part having a disunity among a plurality of link source descriptions having a same link target page, and

said candidate providing unit provides a correction candidate for the link source description by comparing link source descriptions of a plurality of links having a same link target

page as that of said part detected by said condition detecting unit.

69.     The computer program product as set forth in claim 47, wherein said condition detecting unit is operated to detect a part having a disunity in styles among a plurality of link source descriptions included in a same page or peripheral pages, and

5       said candidate providing unit is operated to provide said correction candidate for the style of the link source description by comparing the style of a plurality of link source descriptions included in the detected part detected by said condition detecting unit.

70.     The computer program product as set forth in any one of claim 46, wherein said information collecting unit is operated to repeatedly collect said information about the links in the hypertext, and said information storing unit stores a plurality

5   of said information about the links collected at a plurality of different times.

71.     The computer program product as set forth in claim 70, wherein said condition detecting unit is operated to detect a part having a mismatch between a link source description and contents of a link target page by referring to said information storing

5   unit and calculating changes of the numbers of the links or kinds of the link source description to the link target page during said times, the contents of said link target page being changed.

72.     The computer program product as set forth in claim 45, wherein said condition detecting unit is operated to detect a link having no link source description as said part including the

logically mismatched link.

73. The computer program product as set forth in claim 45, wherein said condition detecting unit is operated to detect a link having the link source description in which no character strings or images are included, or a link having the link source description in which a character string or an image expressed in an inconspicuous color or a size is included, as said part including the logically mismatched link.

74. The computer program product as set forth in claim 45, wherein said condition detecting unit is operated to detect a group of links forming a loop as said part, the link source descriptions of said links relating to a same topic.

75. The computer program product as set forth in claim 48, wherein said importance calculating unit is operated to calculate importance value based on at least one of the following factors including:

(1) a sort of errors or unsuitability of the detected part detected by said condition detecting unit;

(2) accuracy of errors or unsuitability of said detected part;

(3) the number of links which is connected to the page including said detected part;

(4) a record of frequency of access to the page including said detected part; and

(5) a stratification level in the hypertext of the page including said detected part.

76. The computer program product as set forth in claim 48, wherein said importance calculating unit is operated to calculate

the importance value of the detected part detected by said condition detecting unit, and to control output condition for said detected part in accordance with said importance value, said output condition including the number of outputting said detected part or a method of outputting said detected part.

77. The computer program product as set forth in claim 46, wherein said information collecting unit is operated to extract character strings corresponding to the link source description by character recognition when the link source description is an image, and to resister said extracted character strings as said information about links on said information storing unit.

78. The computer program product as set forth in claim 45, having a hypertext on a Web site to be checked target.

79. The computer program product as set forth in claim 46, having a hypertext on a Web site to be checked target.